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10/584,323	06/26/2006	Jurgen Stauder	PF040008	1975

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EXAMINER	
PATEL, NIRAV G	
ART UNIT	PAPER NUMBER
2624	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/584,323	STAUDER ET AL.	
	Examiner	Art Unit	
	Nirav G. Patel	2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 March 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-9* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-9* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

It would be of great assistance to the Office if all incoming papers pertaining to a filed application carried the following items:

1. Application number (checked for accuracy, including series code and serial no.).
2. Group art unit number (copied from most recent Office communication).
3. Filing date.
4. Name of the examiner who prepared the most recent Office action.
5. Title of invention.
6. Confirmation number (See MPEP § 503).

Response to Arguments

1. Applicant's arguments filed 3/17/2009 have been fully considered but they are not persuasive.

Applicant's argument for Claims 1 & 9

a. The Onda reference does not teach the "reference characters" comes from a "subset of images from among the set of images."

b. Onda teaches using separately provided reference images for use of comparing and therefore the examiner's characterization is impermissible hindsight reconstruction.

c. Onda only operates with images having characters, while the present invention can work with or without characters in the selected image set.

Examiner's answer

a. Onda teaches a set of images (Col. 2, Lines 8-13: A image scanning system scans a document that has images and characters, thus constituting a set of images, which are stored in the memory (Figure 1, Unit 8)), the set of images contain a subset of images (Col. 2, Lines 8-13: The images are one subset, and characters with the reference images are another subset (Cols. 2&3, Lines 67-68 & 1-3), and each of the image in the subset of images represents at least one similar object (The characters represent one similar object, characters of the alphabet). Next, from the subset, a reference image is selected from the subset (Col. 3, Lines 1-3) and detecting the orientation of the images of each subset as a function of the orientation of the said reference image (Col. 4, Lines 58-66).
b. The Onda teaches the limitations as a whole and the limitation is not rejected as obvious and therefore there is no question of hindsight reconstruction.
c. The limitations, as presented, as taught by the Onda reference. The present invention does not claim in Claim 1 operating with or without characters.

Applicant's argument for Claims 2-8 – Since the claims depend on claim 1, and Onda allegedly does not teach the limitations of claim 1, claims 2-8 are allowable.

Examiner's answer – The rejection of claim 1 stands due to the fact that Onda does teach the limitations of claim 1 and therefore the rejection of the dependent claims stand.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1 and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Onda (U.S. Pat. No.: 5,077,811).

1) Regarding Claim 1, Onda discloses a method for detecting the orientation of a set of images, said set of images containing subset of images, each image in a subset of images representing at least one similar object wherein it comprises the steps of:

choosing a reference image in each subset of image from among the set of images (Col. 3, Lines 1-3: a second predetermined number of reference characters are provided for comparison with the character images)

detecting the orientation of the images of each subset as a function of the orientation of the said reference image (Col. 4, Lines 58 - 66: the image signals for the first scanned character is compared with all of the reference characters. Matching data obtained as the result of the comparison is then stored The procedure is carried out for the next scanned character and so on until all of the characters are compared with the reference characters).

2) Regarding Claim 9, Onda discloses a device for detecting the orientation of a set of images (Claim 1), said set of images containing subset of images, each image in

a subset of images representing at least one similar object wherein it comprises the steps of:

choosing a reference image in each subset of image from among the set of images (Col. 3, Lines 1-3: a second predetermined number of reference characters are provided for comparison with the character images),

detecting the orientation of the images of each subset as a function of the orientation of the said reference image (Col. 4, Lines 58 - 66: the image signals for the first scanned character is compared with all of the reference characters. Matching data obtained as the result of the comparison is then stored The procedure is carried out for the next scanned character and so on until all of the characters are compared with the reference characters).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 2 through 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Onda in view of Chiba et al. (U.S. Pat. No.: 6,744,537, "Chiba").

1) Regarding Claim 2, Onda fails to disclose the limitations of claim 2. However Chiba discloses a method comprising a step of calculating the visual distance between the reference image and the said image (Col. 80, Lines 24-26: computing for distances

between an input character and candidate characters in the recognition directory is executed).

Incorporating the teachings of Chiba to Onda's method would allow for a way to quantify how close a reference image is to an inputted image. Therefore it would have been obvious to one of ordinary skill at the time of the invention to apply the teachings of Chiba to Onda's methods.

2) Regarding Claim 3, Onda fails to disclose the limitations of claim 3. However Chiba discloses a method comprising a step of calculating the visual distance between

the said image and the reference image (see analysis of claim 2 above),

the said image and the reference image having undergone a rotation of 90 degrees (Col. 80, Lines : the image direction correcting section checks the rotation angle or mirroring of an image having the highest recognition certainty or highest probability of accurate recognition among the images BG1 to image BG8 shown in Figure 50. The image with the highest certainty or probability (the closest distance between the input and candidate characters as outlined in claim 2 above is given a higher probability/certainty) is selected as the most correctly orientated image. Figure 50, BG 3 is rotated 90 degrees),

the said image and the reference image having undergone a rotation of 180 degrees (Figure 50, BG 8 is rotated 180 degrees),

the said image and the reference image having undergone a rotation of 270 degrees (Figure 50, BG 2 is rotated 270 degrees (-90 or counterclockwise)).

Incorporating the teachings of Chiba to Onda's method would allow for a way to quantify how close a reference image is to an inputted image when the images are rotated. Different values of the distance between the images are given when the image is rotated a certain way and the rotation which yields the smallest distance would indicated that the image is in the same orientation as the reference. Therefore it would have been obvious to one of ordinary skill at the time of the invention to apply the teachings of Chiba to Onda's methods.

3) Regarding Claim 4, Onda fails to disclose the limitations of claim 4. However Chiba discloses a method comprising a step of determining a sub image in the reference image and a sub image in the said image, the calculation of the visual distance between the said image and the reference image being performed on the respective sub images (Figure 48: Original image is shown as a full page containing an subimage, BG 5. The rotation and distance is performed on the subimages as outlined in analysis of Claims 2 &3 above (Also seen in Figure 50)).

Incorporating the teachings of Chiba to Onda's method would allow for the necessary distance calculation as described above to be conducted on the subimage which is where the image data is contained. Therefore it would have been obvious to one of ordinary skill at the time of the invention to apply the teachings of Chiba to Onda's methods.

4) Regarding Claim 5, Onda fails to disclose the limitations of claim 5. However Chiba discloses a method wherein the said sub images have the same relative size with

respect to the image in which each is positioned (Figures 48 & 50: Figures or original and subimage are same in relative size. Figure 50, the subimages are same as well).

Incorporating the teachings of Chiba to Onda's method would allow images of the same size to be compared to determine the orientation. If the images are not the same relative size, comparison would be made to irrelevant portions of the images yielding an incorrect orientation determination. Therefore it would have been obvious to one of ordinary skill at the time of the invention to apply the teachings of Chiba to Onda's methods.

5) Regarding Claim 6, Onda fails to disclose the limitations of claim 6. However Chiba discloses a method wherein the said sub images are centered with respect to the image in which they are positioned (Figure 48: The subimage "F" in BG 1 is centered with respect to the image in which it is positioned).

Incorporating the teachings of Chiba to Onda's method would allow for a more precise determination of orientation due to the fact that the images would be in the same relative location (centered) as a reference image which are the same relative size (from claim 5). Therefore it would have been obvious to one of ordinary skill at the time of the invention to apply the teachings of Chiba to Onda's methods.

6) Regarding Claim 7, Onda fails to disclose the limitations of claim 7. However Chiba discloses a method wherein the said sub images are positioned in such a way that the visual distance between the said sub images are minimal (Figure 47: Subimages are positioned as to minimize the distances between set of subimages).

Incorporating the teachings of Chiba to Onda's method would allow for a more precise determination of the orientation of an image. If the distance between the images is not minimal, inaccurate determinations could be made when considering that an increase in distance between an image which is the correct reference could be interpreted as incorrect compared to an incorrect reference that shortens the distance determined by moving the image itself closer to the sample image. Therefore it would have been obvious to one of ordinary skill at the time of the invention to apply the teachings of Chiba to Onda's methods.

7) Regarding Claim 8, Onda fails to disclose the limitations of claim 8. However Chiba discloses a method wherein it furthermore comprises a step of selecting the said reference image as a function of the distance between this reference image and the target image (Col. 80, Lines 28-30: a candidate character (reference image) having the minimum distance is recognized as a final candidate (target image) for the inputted character.

Incorporating the teachings of Chiba to Onda's method would allow for a better selection of a reference image. Selecting an image which is a function of the distance between both images can allow for a better reference to be selected, which would essentially be closer due to the fact that if it is further apart, it may be concluded after distance measurements are made that the image is not in the same orientation as the reference even though in reality it may. Therefore it would have been obvious to one of ordinary skill at the time of the invention to apply the teachings of Chiba to Onda's methods.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nirav G. Patel whose telephone number is (571)270-5812. The examiner can normally be reached on Monday - Friday 8 am - 5 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta can be reached on 571-272-7453. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Nirav G. Patel/
Examiner, Art Unit 2624

/Wenpeng Chen/
Primary Examiner, Art Unit 2624
6/1/09